

## III. SHRUBLAND

### III.B.2.N.a. Temperate cold-deciduous shrubland

#### III.B.2.N.a.3. CERCOCARPUS MONTANUS SHRUBLAND ALLIANCE

Mountain-mahogany Shrubland Alliance

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##### CERCOCARPUS MONTANUS / MUHLENBERGIA MONTANA SHRUBLAND

Mountain-mahogany / Mountain Muhly Shrubland

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##### ELEMENT CONCEPT

**GLOBAL SUMMARY:** Not applicable.

##### ENVIRONMENTAL DESCRIPTION

**USFWS Wetland System:** Upland

**Florissant Fossil Beds NM Environment:** This shrubland occupies gravelly substrate and rocky sites on the dry, upper slopes of hills and ridges. These slopes are typically oriented between approximately 125° and 190°, although a few ridges are more westerly trending. The slopes are steep, from 7-22% and are rapidly drained. *Cercocarpus montanus* shrubs are scattered on these sites, e.g., the canopies rarely overlap, unlike very dense stands that grow at lower elevations in Colorado and nearby states. The gravelly substrate, resulting from the weathering of Pikes Peak granite bedrock, also supported stands of *Yucca glauca* dwarf-shrubland, and sparse woodlands dominated by ponderosa pine and rarely Douglas-fir.

**Global Environment:** Not applicable.

##### VEGETATION DESCRIPTION

**Florissant Fossil Beds NM Vegetation:** *Cercocarpus montanus* is the dominant shrub, along with a few *Ribes cereum* on most sites. Since the type occupies canopy breaks or is occasionally invaded by ponderosa pine trees, it is not unusual to have some foliar cover provided by tree canopies. Ponderosa pine trees associated with mountain-mahogany stands usually show stress, often in the form of mistletoe infestations, short stature, dead branches, etc. In addition, many of the stands are relatively sparse in the shrub layer and are actually dominated by graminoids, particularly *Muhlenbergia montana*, *Festuca arizonica*, and *Bouteloua gracilis*. Total vegetative cover for *Cercocarpus montanus* stands was estimated from 40–70%, dependent on the amount of understory herbaceous growth. Mountain-mahogany and wax currant shrubs are typically from 1–2 m tall and provide foliar cover ranging from 10–30%. Dwarf-shrubs, typically *Yucca glauca*, *Artemisia frigida*, and young *Cercocarpus montanus*, are present, but usually provide less than 5% foliar cover. Graminoids typically provide the dominant foliar cover in a site (from 20–45%), particularly *Muhlenbergia montana*, *Festuca arizonica*, and *Bouteloua gracilis*. Other graminoids observed in mountain-mahogany shrublands included *Muhlenbergia filiculmis*, *Carex inops*, *Blepharoneuron tricholepis*, *Koeleria macrantha*, and *Elymus elymoides*. Forbs rarely contribute greater than 5% foliar cover, and the more common species include *Chenopodium leptophyllum*, *Euphorbia spathulata* (= *Tithymalus montanus*), *Ipomopsis aggregata*, *Cryptantha thyrsoflora*, *Hymenoxys richardsonii*, *Lithospermum multiflorum*, and *Grindelia subalpina*. Ground cover varies from site to site, i.e., those with smaller amounts of herbaceous cover have from 40–90% bare ground and small rocks (mostly granite gravel), while other sites may have litter values from approximately 10–35%. One stand sampled contained approximately 70% ground cover by herbaceous litter, predominantly from ponderosa pine needles and mast.

These stands are readily observable on true color and CIR photographs, due largely to the size of the shrubs. Many stands are less than the minimum mapping unit, and the more sparse stands may actually be mapped as herbaceous types. On some slopes the stands of mountain-mahogany intermix with stands of bunch grasses and sparse ponderosa pine woodland, which may require delineation as a complex.

**Global Vegetation:** Not applicable.

**Global Dynamics:** Not applicable.

### MOST ABUNDANT SPECIES

#### Florissant Fossil Beds NM

<u>Stratum</u>	<u>Species</u>
Tree	<i>Pinus ponderosa</i>
Shrub	<i>Cercocarpus montanus</i> , <i>Ribes cereum</i>
Dwarf-shrub	<i>Yucca glauca</i> , <i>Artemisia frigida</i>
Graminoid	<i>Muhlenbergia montana</i> , <i>Festuca arizonica</i> , <i>Bouteloua gracilis</i>
Forb	<i>Hymenoxys richardsonii</i> , <i>Grindelia subalpina</i>

#### Global

<u>Stratum</u>	<u>Species</u>
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### CHARACTERISTIC SPECIES

#### Florissant Fossil Beds NM

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Cercocarpus montanus</i> , <i>Ribes cereum</i>
Dwarf-shrub	<i>Yucca glauca</i> , <i>Artemisia frigida</i>
Graminoid	<i>Muhlenbergia montana</i> , <i>Festuca arizonica</i> , <i>Bouteloua gracilis</i>
Forb	<i>Allium cernuum</i> , <i>Hymenoxys richardsonii</i> , <i>Grindelia subalpina</i> , <i>Lithospermum multiflorum</i>

#### Global

<u>Stratum</u>	<u>Species</u>
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### OTHER NOTEWORTHY SPECIES

#### Florissant Fossil Beds NM

<u>Stratum</u>	<u>Species</u>
Forb	<i>Pediocactus simpsonii</i>

#### Global

<u>Stratum</u>	<u>Species</u>
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### GLOBAL SIMILAR ASSOCIATIONS:

### GLOBAL STATUS AND CLASSIFICATION COMMENTS

**Global Conservation Status Rank:** Not applicable.

**Global Classification Comments:** Not applicable.

### ELEMENT DISTRIBUTION

**Florissant Fossil Beds NM Range:** *Cercocarpus montanus* / *Muhlenbergia montana* Shrubland occupies southern, eastern, and western exposures on the upper slopes of hills and ridges at mid and higher elevations throughout the monument. Often these stands occur within canopy breaks among ponderosa pine woodland stands of the same exposures. One unusual mountain-mahogany stand occurs among Douglas-fir, west of the Visitor Center.

**Global Range:** Not applicable.

**Nations:** US

**States/Provinces:**

### ELEMENT SOURCES

**Florissant Fossil Beds NM Inventory Notes:** Plots 5, 85, 96, 97

**Classification Confidence:** 3 **Identifier:** To be determined

### REFERENCES: